TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
401 CHURCH STREET
L & C ANNEX 6TH FLOOR
NASHVILLE TN 37243

July 22, 2013

Mr. Steve Nash, Owner
Nash Dairy Co.
e-copy: holsti2@att.net
4225 East Conejo Avenue
Selma, CA 93662

Re: State Operating Permit No. SOP-13007
Nash Dairy Company
Chapel Hill, Bedford County, Tennessee

Dear Mr. Nash:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed State Operating Permit. The continuance and/or reissuance of this Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. Any petition for permit appeal under this subsection (i) shall be filed with the technical secretary of the Water Resources Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

If you have questions, please contact the Columbia Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Ms. Erin O'Brien at (615) 253-2245 or by E-mail at *Erin.O'Brien@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Water-based Systems

Enclosure

cc/ec: Permit File
Columbia Environmental Field Office (Ryan.Owens@tn.gov)
Sam Marshall, TDA, Sam.Marshall@tn.gov
Mr. John Donaldson, Consultant, Waste Management Consulting, jcd107@gmail.com

STATE OF TENNESSEE

OPERATING PERMIT

Permit No. SOP-13007

Issued By

Tennessee Department of Environment and Conservation
Division of Water Resources
401 Church Street
6th Floor, L & C Annex
Nashville, Tennessee 37243

In accordance with the provisions of Tennessee Code Annotated Section 69-3-108
and regulations promulgated pursuant thereto:

permission is hereby granted to:	**Nash Dairy Company, a dairy farm**
for the operation of:	**a concentrated animal feeding operation (CAFO) with a capacity for 1,800 dairy cows (1,500 wet cows and 300 dry cows), that may discharge overflow of process wastewater from a holding pond designed, constructed, operated, and maintained to contain all process-generated wastewater plus the runoff from a 25-year, 24-hour rainfall event, at a minimum**
from a facility located:	**at 3983 Highway 41A North in Chapel Hill, Bedford County, Tennessee**
near receiving waters named:	**Clem Creek**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:	**July 22, 2013**
This permit shall expire on:	**June 30, 2018**
Issuance date:	**July 22, 2013**

for Sandra K. Dudley, Ph.D., P.E.
Director

(This page intentionally left blank.)

TABLE OF CONTENTS

PART I

A. AUTHORIZATION

Nash Dairy Company, a dairy farm, located at 3983 Highway 41A North in Chapel Hill, Bedford County, Tennessee, is authorized to operate a concentrated animal feeding operation (CAFO), which is located near Clem Creek. This CAFO must have all measures, structures, etc. in place and fully implemented, according to the site-specific nutrient management plan (NMP) approved by the Tennessee Department of Agriculture, at the time of commencement of operation.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee shall attain the limitations and requirements of this permit at the time of commencement of operation for the following areas.

1. Production Areas

Except as provided below, there must be no discharge of manure, litter, or process wastewater pollutants into waters of the state from the production area.

Whenever precipitation causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged into waters of the state provided that:

a. The production area is designed, constructed, operated and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event, at a minimum (Note: Per application information, Nash Dairy's liquid waste holding pond was designed for a 50-year, 24-hour storm event, equivalent to 6.48 inches of precipitation for this location);
b. The production area is operated in accordance with the requirements of this permit.

2. Land Application Areas

Application rates for manure, litter, or process wastewater to land under the ownership or operational control of the CAFO must be managed to minimize phosphorus and nitrogen transport from the application field(s) to waters of the state according to the permittee's site-specific nutrient management plan (NMP).

The discharges from land application areas are subject to the following requirements:

a. The NMP must be fully implemented at the time of commencement of operation.
b. The best management practices (BMPs) listed in subpart III.C must be developed and fully implemented at the time of commencement of operation.
c. Inspections and records shall be maintained as specified in subpart I.E below.

3. Timing Limitations

There must not be land application of nutrients including manure, litter or process waste water, within 24 hours of a precipitation event that may cause runoff from the fields. The operator shall not land apply nutrients to frozen, flooded, or saturated soils when the potential for runoff is high. All applications of manure shall be made during the months of March through October subject to the limitations of this section.

4. Nutrient Application Requirements

All additions of plant available nitrogen and phosphorus, including manure, fertilizer, biosolids, etc., to the fields listed in the permittee's NMP shall be documented according to the record keeping requirements listed in section I.D.2 below.

5. Nutrient Calculation Methodology

The permittee has provided the methodology used to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be land applied. This methodology includes the calculations used to determine the quantity of manure to be land applied and incorporates the nutrient content of the manure and the nutrient needs of the proposed crops. A copy of this methodology is included in Appendix A of this permit.

The permittee must calculate the maximum amount of manure, litter, and process wastewater to be land applied at least once each year using the results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application. The permittee shall use the methodology provided in Appendix A for these calculations and shall keep a copy of all calculations with their records, as required by section I.D.2 below.

6. Rainfall Monitoring

A rain gauge shall be kept on site and properly maintained. Amounts of rainfall shall be recorded for all rainfall events, as defined in subpart I.F below.

7. Discharge Notification

If for any reason, there is a discharge to a water body of the state or an overflow or discharge from a waste retention structure, the permittee shall make oral notification within 24-hours to the Division of Water Resources (division) by calling 1-888-891-TDEC and shall notify the division's Columbia Environmental Field Office (EFO), at the address listed below, in writing within five working days of the discharge from the facility. The written notification must include a description of the discharge (including the cause and flow path of the discharge), volume of discharge, time of discharge, and the cause of the discharge.

Columbia Environmental Field Office
Water Pollution Control
1421 Hampshire Pike
Columbia, TN 38401

In addition, the permittee shall collect a sample of the waste/wastewater discharged and shall analyze the sample for the parameters shown in Table 3 below, at a minimum:

Table 1. Discharge Monitoring Requirements.

Effluent Characteristic	Frequency	Sample Type
Flow	1/Discharge	Estimate
BOD5	1/Discharge	Grab
Total Suspended Solids (TSS)	1/Discharge	Grab
Nitrogen, Total	1/Discharge	Grab
Nitrogen, Ammonia Total	1/Discharge	Grab
Total Kjeldahl Nitrogen	1/Discharge	Grab
Nitrogen Nitrate Total (as N)	1/Discharge	Grab
Phosphorus, Total	1/Discharge	Grab
Phosphorus, Dissolved	1/Discharge	Grab
Escherichia coli	1/Discharge	Grab

*Flow shall be reported in Million Gallons per Day (MGD)

Note: The division suggests that permittees obtain appropriate sampling containers to retain on site or that permittees have a laboratory available that will be able to conduct the required sampling within 30 minutes if a discharge occurs.

Sampling results shall be submitted to the Columbia EFO along with the following information within 30 days of the discharge:

a. Volume of the discharge: An estimate of the volume of the release and the date and time.
b. Sampling procedures: Samples shall consist of grab samples collected from the over-flow or discharges from the retention structure. A minimum of one sample shall be collected from the initial discharge (within 30 minutes). Samples must be collected in compliance with the requirements of section I.C.2 below.
c. Reasons for not sampling: If conditions are not safe for sampling, the permittee must provide documentation of why samples could not be collected. However, once the unsafe conditions have passed, the permittee shall collect a sample for the retention structure (pond or lagoon) within 30 minutes.
d. All monitoring information required by this section shall be submitted to the division using the forms provided in Appendix D.

C. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the discharge, and shall be taken prior to mixing with uncontaminated stormwater runoff or the receiving stream.

2. Test Procedures

Monitoring results must be conducted according to test procedures specified in TDEC Rule 1200-04-05-.07.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;
b. The exact person(s) collecting samples;
c. The dates and times the analyses were performed;
d. The person(s) or laboratory who performed the analyses;
e. The analytical techniques or methods used, and;
f. The results of all required analyses.

D. INSPECTION, RECORD KEEPING, AND REPORTING

1. Inspections

Daily inspections of all water lines, including drinking water or cooling water are required.

Weekly inspections are also required for the following:

a. All stormwater diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the wastewater and manure storage and containment structure, and
b. Manure, litter, and process wastewater impoundments noting the liquid level in the impoundments.

2. Record Keeping

The permittee must create, maintain for five years from the date they are created, and make available to the director, upon request, the following records:

a. All applicable records documenting the implementation and management of the minimum elements of the NMP, as listed in subpart III.B below;
b. All applicable records documenting the implementation and management of the required BMPs, as listed in subpart III.C below;
c. A copy of the CAFO's site-specific NMP and records of its annual review;
d. A copy of the CAFO's most recent permit application;
e. A copy of the CAFO's permit shall be kept on site;
f. Records documenting the following visual inspections:

    i. Weekly inspections of all stormwater diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the wastewater and manure storage and containment structure(s);
    ii. Daily inspections of water lines, including drinking water or cooling water lines; and

iii. Weekly inspections of the manure, litter, and process wastewater impoundments noting the liquid level in the impoundments;

g. Weekly records of the depth of the manure and process wastewater in any open surface liquid impoundment as indicated by the required depth marker which indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event.
h. Records documenting any corrective actions taken; deficiencies must be corrected as soon as possible. If deficiencies are not corrected within 30 days of notice of deficiency, the records must include an explanation of the factors preventing immediate correction;
i. Records of mortalities management and practices used to comply with the NMP and the most recent versions of NRCS Conservation Practice Standards 316 and 317, per the requirements of TDEC Rule 1200-04-05-.14;
j. Records documenting the current design of any manure or litter storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity;
k. Annual records of the estimated depth of solids in any open surface liquid impoundment, as indicated by the required depth marker which indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event. The permittee shall use these estimated depths of solids and the design specifications of the liquid impoundments to determine when accumulated solids need to be removed;
l. Records of the date, time, and estimated volume of any overflow;
m. Expected and actual crop yields;
n. The date(s) manure, litter, or process wastewater is applied to each field;
o. Weather conditions at time of application and for 24 hours prior to and following application;
p. Test methods used to sample and analyze manure, litter, process wastewater, and soil,
q. Results from annual manure, litter, and/or process wastewater sampling that was analyzed for nitrogen and phosphorus content;
r. Results from most recent soil sampling (a minimum of once every five years) analyzed for phosphorus content;
s. Explanation of the basis for determining manure application rates, as provided in the technical standards established by the NRCS or as otherwise approved by the director or the Tennessee Department of Agriculture and consistent with applicable state and federal rules;
t. Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than manure, litter, or process wastewater;
u. Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied;
v. The method used to apply the manure, litter, or process wastewater; and
w. Date(s) of manure application equipment inspection and calibration.

3. Annual Report

The permittee must submit an annual report for the previous calendar year, by February 15 that includes:

a. The number and type of animals, whether in open confinement or housed under roof;

b. Estimated amount of total manure, litter and process wastewater generated by the CAFO in the previous calendar year (tons/gallons);
c. Estimated amount of total manure, litter and process wastewater transferred to a third party by the CAFO in the previous calendar year (tons/gallons);
d. Total number of acres for land application covered by the site-specific NMP;
e. Total number of acres under control of the CAFO that were used for land application of manure, litter and process wastewater in the previous calendar year;
f. A summary of all manure, litter and process wastewater discharges to waters of the state from the production area that have occurred in the previous calendar year, including date, time, and approximate volume;
g. A statement indicating whether the current version of the CAFO's NMP was developed or approved by a certified nutrient management planner;
h. The actual crop(s) planted and actual yield(s) for each field;
i. The actual nitrogen and phosphorus content of the manure, litter and process wastewater;
j. The results of calculations to determine the maximum amount of manure, litter and process wastewater to be land applied and the data used in the calculations;
k. The actual amount of manure, litter and process wastewater applied during the previous calendar year;
l. The results of any soil tests for nitrogen and phosphorus conducted in the previous calendar year; and
m. The amount of any supplemental fertilizer applied during the previous calendar year.

Annual reports must be submitted to the Columbia EFO at the address listed in section I.B.7 above, and to the Nashville Central Office Enforcement and Compliance Section at the address listed below.

Tennessee Division of Water Resources
Enforcement and Compliance Section
Attention: Compliance Review
6th Floor L & C Annex
401 Church Street
Nashville, TN 37243

4. Falsifying Reports

Knowingly making any false statement on any report required by this permit may result in the imposition of criminal penalties as provided for in Section 69-3-115 of the Tennessee Water Quality Control Act.

E. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit.

F. DEFINITIONS

An **animal feeding operation** (AFO) is a facility that (1) stables, confines and feeds or maintains animals (other than aquatic animals) for a total of 45 days or more in any 12-month period and (2) does not sustain crops, vegetation, forage growth, or post-harvest residues in the

normal growing season over any portion of the facility. Two or more AFOs under common ownership are considered to be a single AFO for the purposes of determining the number of animals at an operation, if they adjoin each other or if they use a common area or system for the disposal of wastes.

For the purpose of this permit, **annually** is defined as a monitoring frequency of once every twelve (12) months beginning with the date of issuance of this permit so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

A **bypass** is defined as the intentional diversion of waste streams from any portion of a treatment facility.

For the purpose of this permit, a **calendar day** is defined as any 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight-to-midnight time period.

A **concentrated animal feeding operation (CAFO)** means an "animal feeding operation" which meets the criteria in 40 Code of Federal Regulations Part 122, or which the director designates as a significant contributor of pollution pursuant to TDEC Rule 1200-04-05.

Degradation means the alteration of the properties of waters by the addition of pollutants or removal of habitat.

De Minimis – Alterations, other than those resulting in the condition of pollution or new domestic wastewater discharges, that represent either a small magnitude or a short duration shall be considered a de minimis impact and will not be considered degradation for purposes of implementing the antidegradation policy. Discharges other than domestic wastewater will be considered de minimis if they are temporary or use less than five percent of the available assimilative capacity for the substance being discharged. If more than one activity has been authorized in a segment and the total of the impacts uses no more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow, they are presumed to be de minimis. Where total impacts use more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow they may be treated as de minimis provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource and that no single activity is allowed to consume more than five percent of the assimilative capacity, available habitat or 7Q10 low flow.

Discharge or **discharge of a pollutant** refers to the addition of pollutants to waters from a source.

Land application area means the land under the control of an AFO owner or operator to which manure, litter or process wastewater from the AFO production area is or may be applied.

A **large CAFO** (Class I CAFO) is an AFO that confines greater than or equal to the number of animals specified in table 1200-04-05-.14.1.

The term **manure** is defined to include manure, bedding, compost and raw materials or other materials commingled with manure or set aside for disposal.

A **medium CAFO** (Class II CAFO) is an AFO that confines greater than or equal to the number of animals specified in table 1200-04-05-.14.1 and also meets the criteria of 1200-04-05-.14 (3).

A site-specific **nutrient management plan (NMP)** is a conservation plan that is unique to animal feeding operations. It is a grouping of conservation practices and management activities which, when implemented as part of a conservation system, will help to ensure that both production and natural resource protection goals are achieved. Guidance for developing a NMP is located in USDA-NRCS's National Planning Procedures Handbook.

The **NRCS** is the United States Department of Agriculture, Natural Resources Conservation Service.

Owner or operator means any person who owns, leases, operates, controls or supervises a source.

Production Area means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas.

- The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milk rooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways associated with barns or barnyards, and stables.
- The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. If an AFO stores manure in the field (i.e., manure or litter piled for more than several days before land application occurs), the field storage is considered to be a production area. Note that manure or litter stored uncovered for more than two weeks is not considered to be short-term or temporary storage, and is included in the definition of production area.
- The raw materials storage area includes but is not limited to feed silos, silage bunkers, and organic bedding materials.
- The waste containment area includes but is not limited to settling basins, and areas within berms and diversions that separate uncontaminated stormwater.
- The production area also includes any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Process wastewater means water that comes in contact with a production process, its raw materials, products or byproducts. This includes spillage, wash-water, and overflow from animal watering systems or contact-cooling water. In the case of AFOs, process water would include water that contacts manure, litter, feed, milk, eggs or bedding.

A **rainfall event** is defined as any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event. Ten -year, 24-hour rainfall event, 25-year, 24-hour rainfall event, and 100-year, 24-hour rainfall event are mean precipitation events with a probable recurrence interval of once in 10 years, or 25 years, or 100 years, respectively, as defined by the National Weather Service in Technical Paper No. 40, ''Rainfall Frequency Atlas of the United States,'' May, 1961, or equivalent regional or state rainfall probability information developed from this source.

Setback means a specified distance from surface waters or potential conduits to surface waters where manure, litter, and process wastewater may not be land applied. Examples of conduits to surface waters include but are not limited to: open tile line intake structures, sinkholes, and wells.

TDA is the Tennessee Department of Agriculture.

Unavailable Conditions exist where water quality is at, or fails to meet, the criterion for one or more parameters.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.

Waters means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

PART II

A. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

B. DUTY TO REAPPLY

The permittee is not authorized to operate after the expiration date of this permit. In order to receive authorization to operate beyond the expiration date, the permittee shall submit such information and forms as are required to the director no later than 180 days prior to the expiration date.

C. PROPER OPERATION AND MAINTENANCE

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also

includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

D. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Causes for such permit action include but are not limited to the following:

1. Violation of any terms or conditions of the permit;
2. Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; and
3. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

E. PROPERTY RIGHTS

This permit does not convey property rights of any sort, or any exclusive privilege.

F. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the commissioner, within a reasonable time, any information which the commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the commissioner upon request, copies of records required to be kept by this permit.

G. INSPECTION AND ENTRY

The permittee shall allow the commissioner, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the commissioner.

H. MONITORING, RECORDS AND REPORTING

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of

the sample, measurement, report or application. This period may be extended by request of the director at any time.

1. Records of monitoring information shall include:

    a. the date, exact place, and time of sampling or measurements;
    b. the individual(s) who performed the sampling or measurements;
    c. the date analyses were performed;
    d. the individual(s) who performed the analyses;
    e. the laboratory where the analyses were performed;
    f. the analytical techniques or methods used; and
    g. the results of such analyses.

2. Monitoring results must be conducted according to test procedures approved under 40 CFR part 136.
3. Regular reporting (at a frequency of not less than once per year) to assure that compliance is being achieved will normally be required of the discharger in any permit as indicated below:

    a. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the commissioner. Monitoring may also be reported via electronic reporting methods established by the commissioner.
    b. If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or other reporting form specified by the commissioner.
    c. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in the permit.

I. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to the commissioner shall be signed and certified by the persons identified in 1200-04-05-.05(6)(a-c), making the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

J. PLANNED CHANGES

The permittee will annually review and update the NMP and notify the director whenever there have been significant changes that affect the amount of manure produced, such as the number of animals on site; changes in how the manure is handled, stored, transferred, or land applied; or changes to how animal mortalities are handled. The permittee shall give notice to the director as

soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility is considered a new source per 1200-04-05-.02 (54);
b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; or
c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices.

K. TRANSFERS

Individual permits are not transferable to any person except after notice to the commissioner, as specified below. The commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee.

1. The permittee notifies the commissioner of the proposed transfer at least 30 days in advance of the proposed transfer date.
2. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them.
3. The permittee must provide the following information to the commissioner in their formal notice of intent to transfer ownership:

    a. The permit number of the subject permit;
    b. The effective date of the proposed transfer;
    c. The name and address of the transferor;
    d. The name and address of the transferee;
    e. The names of the responsible parties for both the transferor and transferee;
    f. A statement that the transferee assumes responsibility for the subject permit;
    g. A statement that the transferor relinquishes responsibility for the subject permit;
    h. The signatures of the responsible parties for both the transferor and transferee pursuant to the signatory requirements of this part; and
    i. A statement regarding any proposed modifications to the facility, its operations, or any other changes, which might affect the permit, limits and conditions contained in the permit.

L. BYPASS

Bypass, as defined by 1200-04-05-.02(1), is prohibited unless:

1. bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
2. there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
3. for anticipated bypass, the permittee submits prior notice, to the Division, if possible at least ten days before the date of the bypass; or

4. for unanticipated bypass, the permittee submits notice to the Division of an unanticipated bypass within 24 hours from the time that the permittee becomes aware of the bypass.

A bypass that does not cause effluent limitations to be exceeded may be allowed only if the bypass is necessary for essential maintenance to assure efficient operation.

M. OVERFLOW

Overflows as defined by 1200-04-05-.02 are prohibited.

N. NONCOMPLIANCE

In the case of any noncompliance which could cause a threat to human health or the environment, the permittee shall report the noncompliance to the commissioner within 24 hours from the time the permittee becomes aware of the circumstances. A written submission must be provided within five days of the time the permittee becomes aware of the noncompliance. The permittee shall provide the following information:

1. A description of, and the cause of the noncompliance;
2. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;
3. The steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

O. UPSET

An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the cause(s) of the upset;
2. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;
3. The permittee submitted information required under "Reporting of Noncompliance" within 24 hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and
4. The permittee complied with any remedial measures required under "Adverse Impact."

P. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

Q. NOTIFICATION

The following notification requirements apply to industrial/mining dischargers and publicly owned treatment works.

Industrial/mining dischargers shall notify the commissioner as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   i. One hundred micrograms per liter (100 ug/l);
   ii. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
   iii. Five times the maximum concentration value reported for that pollutant(s)in the permit application; or
   iv. The level established by the commissioner.

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   i. Five hundred micrograms per liter (500 ug/l);
   ii. One milligram per liter (1 mg/l) for antimony;
   iii. Ten times the maximum concentration value reported for that pollutant in the permit application; or
   iv. The level established by the commissioner.

R. LIABILITIES

1. Civil and Criminal Liability

Except as provided in permit conditions nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or the Federal Water Pollution Control Act, as amended.

PART III

OTHER REQUIREMENTS

A. REOPENER CLAUSE

If an applicable standard or limitation is promulgated under TDEC Rule 1200-04-05 and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

B. NUTRIENT MANAGEMENT PLAN (NMP)

The permittee's NMP is entitled "Nutrient Management Plan" for Operation Name "Nash Dairy Co" and Owner Name "Steve Nash." The NMP was originally received by the division (via TDA) on January 9, 2013; no revisions to the NMP were necessary, but additional information and explanations were needed and those were received on April 1, 2013. This NMP and any future revised NMPs, authorized according to section III.B.3 below, are incorporated into this permit by reference.

The NMP must incorporate the requirements listed in sections III.B.1 and III.B.2 below. Nutrient application rates shall be based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters.

Application rates for manure, litter, and other process wastewater applied to land under the ownership or operational control of the CAFO must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the technical standards for nutrient management established by the director.

1. Contents of Nutrient Management Plan (NMP)

The permittee has developed and submitted for state approval from TDA a site-specific nutrient management plan (NMP). The NMP must be kept on site. The NMP is available for public review at the Nashville central office, the Columbia Environmental Field Office and the TDA Ellington Agriculture Center. The permittee must have all measures, structures, etc., of the NMP in place and fully implemented upon the date of permit issuance. The NMP must comply with applicable state rules and:

a. Includes best management practices and procedures necessary to implement applicable effluent limitations and standards,
b. Ensures adequate storage of manure, litter, and process wastewater including procedures to ensure proper operation and maintenance of the storage facilities,
c. Ensures proper management of mortalities (i.e., dead animals) so that they are not disposed of in a liquid manure, stormwater, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities as outlined in NRCS Conservation Practice Standard 316, October 2002 (or the most recent edition) and/or the NRCS Animal Waste Handbook,

d. Ensures that clean water is diverted, as appropriate, from the production area,
e. Prevents direct contact of confined animals with waters of the state,
f. Ensures that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or stormwater storage or treatment system unless specifically designed to treat such chemicals and other contaminants,
g. Identifies appropriate site specific conservation practices to be implemented, including, as appropriate, buffers or equivalent practices to control runoff of pollutants to waters of the state (these practices must meet minimum standards set in the NRCS Field Office Practice Standard and/or the NRCS Animal Waste Handbook),
h. Identifies protocols for appropriate testing of manure, litter, process wastewater, and soil that are approved by the University of Tennessee testing lab for Tennessee conditions,
i. Establishes protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater, and
j. Identifies specific records that will be maintained to document the implementation and management of the minimum elements described in items a through i above.
k. In addition to NRCS technical standards, NMPs must address facility maintenance until all manure and/or litter is transferred to a third party or land applied in accordance with the NMP, see subpart III.E below.

2. Terms of the NMP

The terms of the permittee's site-specific nutrient management plan (NMP) are enforceable through this permit. The terms of the NMP are the information, protocols, best management practices, and other conditions in the NMP determined by the director to be necessary to implement the NMP. The terms of the NMP, with respect to protocols that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater, must include field-specific rates of application properly developed in accordance with recommendations by the University of Tennessee Extension and any timing limitations identified in the NMP concerning land application on the fields available for land application.

3. Changes to a NMP

The permittee must review their NMP annually to determine if any changes are necessary. Whenever the permittee makes changes to its NMP previously submitted to the director:

a. The CAFO owner or operator must provide the director with the most current version of the CAFO's nutrient management plan and identify changes from the previous version, except that the results of calculations made in accordance with the requirements of section I.B.5 above are not considered to be changes to the nutrient management plan subject to the requirements of this paragraph.
b. The director must review the revised NMP to ensure that it meets the requirements of this paragraph and applicable effluent limitations and standards and must determine whether the changes to the NMP include revisions to the terms of the NMP as set forth in section III.B.2 above. The director must advise the CAFO owner or operator whether or not the changes meet the requirements of this paragraph and applicable effluent limitations and standards and upon such notification the CAFO must either make further revisions to the NMP or implement the revised NMP.

C. BEST MANAGEMENT PRACTICES (BMPS)

1. General Requirements

a. The permittee shall prevent discharge of pesticide-contaminated waters into retention structures. All wastes from dipping vats, pest and parasite control units, and other facilities utilized for the management of potentially hazardous or toxic chemicals shall be handled and disposed of in a manner such as to prevent pollutants from entering the retention structures or waters of the state.
b. All discharges to containment structures shall be composed entirely of wastewater from the proper operation and maintenance of a CAFO and the precipitation runoff from the CAFO areas. The disposal of any materials (other than discharges associated with proper operation and maintenance of the CAFO) into the containment structures is prohibited by this permit.
c. Chemicals, manure, litter, and/or process wastewater shall be managed to prevent spills. Procedures for cleaning up spills shall be developed and the necessary equipment to implement clean up shall be available to facility personnel.
d. No CAFO liquid waste management system shall be constructed, modified, repaired, or placed into operation after April 13, 2006, unless it is designed, constructed, operated, and maintained in accordance with final design plans and specifications which meet or exceed standards in the NRCS Field Office Technical Guide and other guidelines as accepted by the Departments of Environment and Conservation, or Agriculture, per TDEC Rule 1200-04-05-.14(14).
e. The operator shall notify the division in the event of any significant fish, wildlife, or migratory bird/endangered species kill or die-off on or near retention ponds or in fields where waste has been applied, and which could reasonably have resulted from waste management at the facility.
f. Where employees are responsible for work activities which relate to permit compliance, those employees must be regularly trained in the proper operation and maintenance of the facility and waste disposal. Training shall include topics as appropriate such as land application of wastes, proper operation and maintenance of the facility, good housekeeping and material management practices, necessary record-keeping requirements, and spill response and clean up. The permittee is responsible for determining the appropriate training frequency for personnel and the NMP shall identify periodic dates for such training.
g. Uncontaminated stormwater runoff shall be diverted away from manure, litter, process wastewater, waste retention structures, and mortality management areas, i.e., lagoons, under floor pits, composters, etc.

2. Depth Marker

All open surface liquid impoundments must have a depth marker which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event, at a minimum (Note: Per application information, Nash Dairy's liquid waste holding pond was designed for a 50-year, 24-hour storm event, equivalent to 6.48 inches of precipitation for this location), and the minimum required freeboard according to the impoundment design.

3. Land Application of Animal Waste

The following best management practices (BMPs) are required to be implemented through the permittee's NMP that incorporates a field-specific assessment of the potential for nitrogen and phosphorus transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters:

a. Application rates for manure, litter, and other process wastewater applied to land under the ownership or operational control of the CAFO must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with technical standards for nutrient management that:

    i. Include a field-specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters, and address the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters, that employs the Tennessee Phosphorus Index (a tool developed by the University of Tennessee Extension Service and the NRCS to assess the risk of phosphorus movement from the application area to waters of the state); and
    ii. Include appropriate flexibilities for any CAFO to implement nutrient management practices to comply with the technical standards, including consideration of multi-year phosphorus application on fields that do not have a high potential for phosphorus runoff to surface water, phased implementation of phosphorus-based nutrient management, and other components, as determined appropriate by the director;

b. Annual manure analysis for nitrogen and phosphorus content, using procedures outlined in Tennessee NRCS Conservation Practice Standard 590, January 2003 (or most recent), and soil analysis at a minimum of once every five years for phosphorus content (the results of these analyses are to be used in determining application rates for manure, litter, and other process wastewater);
c. Periodic inspection of equipment used for land application of manure, litter and other process wastewater;
d. Application of manure, litter, and process wastewater that:

    i. Is applied no closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters unless,

        1) The CAFO substitutes the 100-foot setback with a 35-foot wide vegetated buffer or by leaving in place a 60-foot natural riparian buffer, where applications of manure, litter, or process wastewater are prohibited; or
        2) The CAFO demonstrates that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent to or better than the reductions that would be achieved by the 100-foot setback;

    ii. Is applied no closer than 100 feet for any potable well, public or private or as recommended by the University of Tennessee Extension; and

e. For new CAFOs that are located adjacent to exceptional Tennessee waters and outstanding national resource waters (as identified by the department), leave in place a minimum 60-foot natural riparian buffer between the stream and the land application area.
f. There must not be land application of nutrients including manure, litter or process waste water, within 24 hours of a precipitation event that may cause runoff from the fields. The operator shall not land apply nutrients to frozen, flooded, or saturated soils when the potential for runoff is high.

All buffer zones required under this section should be established between the top of stream bank and the land application area.

D. TRANSFER TO THIRD PARTY

In cases where CAFO-generated manure, litter, or process wastewater is sold or given away in its entirety to be used for land application activities that are not under the control of the permitted CAFO, land application does not need to be addressed in the permitted CAFO NMP. However, the permittee must do the following for every transfer of waste:

a. Provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis, consistent with 40 CFR § 412 and approved by the University of Tennessee Extension; and
b. Ensure that the recipient sign the Agreement for the Removal of Litter, Manure and/or Process Wastewater using the form in Appendix B below. The permitted CAFO must keep a copy of the signed Agreement along with other records required by this permit, per section I.D.2 above.

In addition, the permittee must retain for five years records of the date, recipient name and address, and approximate amount of manure, litter or process wastewater transferred to a third party using the form in Appendix C.

E. CLOSURE PLAN

The permittee must fully implement the closure/rehabilitation plan for the waste system storage/treatment structure(s) within 360 days of ceasing operation.

In addition to NRCS technical standards, the plan must address facility maintenance until proper closure and include the following:

a. All mortalities must be properly disposed of, in accordance with the requirements of subpart III.F below;
b. No lagoon or other earthen basin shall be permanently abandoned,
c. Lagoons and other earthen basins shall be maintained at all times until closed in compliance with this subpart,
d. All lagoons and other earthen basins must be closed if the permittee ceases operation. In addition, any lagoon or other earthen basin that is not in use for a period of twelve consecutive months must be closed unless the permittee is viable, intends to resume use of the structure at a later date, and maintains the structure as though it were actively in use, to

prevent compromise of structural integrity; or removes manure and wastewater to a depth of one foot or less and refills the structure with clean water to preserve the integrity of the synthetic or earthen liner. In either case, the permittee shall notify the division of the action taken and shall conduct routine inspections, maintenance, and record keeping as though the structure were in use. Prior to restoration of use of the structure, the permittee shall notify the division and provide the opportunity for inspection,

e. All closure of lagoons and other earthen basins must be in accordance with NRCS standards (Field Technical Guide No. 360, Closure of Waste Impoundment). Consistent with NRCS standards, the permittee shall remove all waste materials to the maximum extent practicable and dispose of them in accordance with the permittee's NMP, unless otherwise authorized by the division.
f. Unless otherwise authorized by the division, completion of closure for lagoons and other earthen basins shall occur as promptly as practicable after the permittee ceases to operate or, if the permittee has not ceased operations, 12 months from the date on which the use of the structure ceased, unless the requirements above are met.

F. MORTALITY MANAGEMENT

The permittee must ensure proper management of mortalities (i.e., dead animals) so that they are not disposed of in a liquid manure, stormwater, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities. Mortalities must be handled in such a way as to prevent the discharge of pollutants to surface water. At a minimum, the requirements of the most recent versions of Tennessee NRCS Conservation Practice Standards 316-Animal Mortality Facility, May 1, 2006 (or most recent) and 317-Composting Facility, May 2002 (or most recent) must be followed, as applicable. Records documenting compliance with the NRCS Conservation Practice Standards shall be maintained in compliance with section I.D.2 above.

APPENDIX A – Nutrient Calculation Methodology

Application												
Field	Acres	Spread Acres	Crop or alternate crops	Yield	P Index	Control Nut	Max N		Max P2O5	
1	49	49	Corn Sil	20	Medium	Nitrogen	180	lbs/Ac	72	lbs/Ac
			Sogrum Sil	12	Medium	Nitrogen	90	lbs/Ac	26	lbs/Ac
			Ryegrass	4	Medium	Nitrogen	165	lbs/Ac	40	lbs/Ac
3	34.9	34.9	Alfalfa	6	Medium	Nitrogen	336	lbs/Ac	90	lbs/Ac
4	27.8	26.1	Alfalfa	6	High	Phosphorus	336	lbs/Ac	90	lbs/Ac
5	16.2	16.1	Corn Sil	20	High	Phosphorus	180	lbs/Ac	72	lbs/Ac
			Sogrum Sil	12	High	Phosphorus	90	lbs/Ac	26	lbs/Ac
			Ryegrass	4	High	Phosphorus	165	lbs/Ac	40	lbs/Ac
6	29.4	26.7	Corn Sil	20	Low	Nitrogen	180	lbs/Ac	72	lbs/Ac
			Sogrum Sil	12	Low	Nitrogen	90	lbs/Ac	26	lbs/Ac
			Ryegrass	4	Low	Nitrogen	165	lbs/Ac	40	lbs/Ac
7	51.1	51	Corn Sil	20	High	Phosphorus	180	lbs/Ac	72	lbs/Ac
			Sogrum Sil	12	High	Phosphorus	90	lbs/Ac	26	lbs/Ac
			Ryegrass	4	High	Phosphorus	165	lbs/Ac	40	lbs/Ac
8	58.3	54.5	Corn Sil	20	Medium	Nitrogen	180	lbs/Ac	72	lbs/Ac
			Sogrum Sil	12	Medium	Nitrogen	90	lbs/Ac	26	lbs/Ac
			Ryegrass	4	Medium	Nitrogen	165	lbs/Ac	40	lbs/Ac
9	57.2	53.1	Corn Sil	2	High	Phosphorus	180	lbs/Ac	72	lbs/Ac
			Sogrum Sil	12	High	Phosphorus	90	lbs/Ac	26	lbs/Ac
			Ryegrass	4	High	Phosphorus	165	lbs/Ac	40	lbs/Ac

Application Methodolgy

Nitrogen

Application Rate** = (Max Nitrogen From above table lbs/Ac)- Nitrogen credit from previous application/PAN

PAN (Plant Available Nitrogen)=Total N (from manure analysis)x .50 (N avalibility factor)

Nitrogen Credit = ((Previous application gal/Ac / 1000)x Total N) x .25

Example 6 2013

Rate = 180 lbs/Ac/ (8.6 lbs/Ac x .50)

Rate = (180 lbs/Ac/ 4.3lbs/1000 gal)*1000

Rate = 27900 gal / Ac **

Phosphorus

Application Rate **= (Max P from table above)/ total P2O5 from manure analysis

Example 4 Corn silage

Rate = (90 lbs/Ac/4 lbs/1000 gal)*1000

Rate = 22500 gal / Ac**

**Note: any application greater than 13400 gal;lons per acre will have to be applied in multiple application passes with a mimimum of 24 hours between passes.

APPENDIX B – Agreement for the Removal of Litter, Manure and/or Process Wastewater

The conditions listed below help to protect water quality. These conditions apply to litter, manure and/or process wastewater removed from an AFO. This agreement is for (amount of waste removed, i.e. tons, gallons, etc.) _____ of waste, removed on (date)_____, from the facility owned by Steve Nash and located at 3983 Highway 41A North, Chapel Hill, TN.

A. The litter, manure and/or process wastewater must be managed to ensure there is no discharge of litter, manure and/or process wastewater to surface or groundwater.

B. When removed from the facility, litter, manure and/or process wastewater should be applied directly to the field or stockpiled and covered with plastic or stored in a building.

C. Litter, manure and/or process wastewater must not be stockpiled near streams, sinkholes, wetlands or wells.

D. Fields receiving litter, manure and/or process wastewater should be soil tested at least every two or three years.

E. A litter, manure and/or process wastewater nutrient analysis should be used to determine application rates for various crops.

F. Calibrate spreading equipment and apply litter, manure and/or process wastewater uniformly.

G. Apply no more nitrogen or phosphorus than can be used by the crop.

H. A buffer zone is recommended between the application sites and adjacent streams, lakes, ponds, sinkholes and wells. The following non-application buffer widths, taken from NRCS Conservation Practice Standard 590, should be used when applicable:

Object, Site	Buffer Width, feet	Situation
Wells	150	Up-slope of application site
	300	Down-slope of application site, if conditions warrant application
Water body	30-100	Depending on the amount and quality of vegetation and slope
Public Use Area	300	All
Residences	300	Other than producer

I. Do not apply litter, manure and/or process wastewater when the ground is frozen, flooded, saturated or on steep slopes subject to flooding, erosion or rapid runoff.

J. Cover vehicles hauling litter, manure and/or process wastewater on public roads.

K. Keep records of locations where poultry litter will be used as a fertilizer.

I, _____ am the person receiving litter, manure, and/or
(name)
process wastewater and do understand the conditions listed above.

_____ _____
(signature) (date)

_____ _____
(address) (phone)

APPENDIX C - Names of Persons and/or Firms that Remove Litter, Manure and/or Process Wastewater from

Nash Dairy Company (SOP-13007)

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

Name: ____________________
Address: ____________________
____
Phone No.: ____________________
Tons Removed: ____________________
Date: ____________________

APPENDIX D – Discharge Report Form

DISCHARGE REPORT FORM

PERMIT NUMBER: SOP-13007

(NOTE: Read instructions before completing this form.)

*** Required notification information per section I.B.3., Discharge Notification, may be included with this form. ***

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME Nash Dairy Co.
ADDRESS 4225 East Conejo Avenue
Selma, CA 93662
FACILITY Nash Dairy Company
LOCATION Bedford County, Tennessee
Attn: Mr. Steve Nash

DISCHARGE INFORMATION:

DATE: **TIME:**
DURATION:
FLOW RATE: **VOLUME ESTIMATE**
DESCRIPTION:
CAUSE:

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				No. Ex	Frequency of Analysis	SAMPLE TYPE
		Average	Maximum	Units	Minimum	Average	Maximum	Units			
BOD, 5-Day (20 Deg C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
Solids, Total Suspended 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
Nitrogen Total (as N) 00600 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
Nitrogen Nitrate Total (as N) 00620 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
Nitrogen Kjeldahl Total (as N) 00625 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
Phosphorus, Total (as P) 00665 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
Phosphorus, Dissovled 00666 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab

Name/Title Principal Executive Officer			Telephone		Date		
	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.						
TYPED OR PRINTED		**SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT**	**AREA CODE**	**NUMBER**	**YEAR**	**MONTH**	**DAY**

COMMENT AND EXPLANATION OF ANY VIOLATIONS ***(Reference all attachments here)***

General Instructions

1. If for any reason, there is a discharge to a water body of the state, the permittee shall make immediate oral notification within 24-hours to the Division of Water Resources (division) and notify the division in writing within five working days of the discharge from the facility. In addition, the permittee shall keep a copy of the notification submitted to the division together with the NMP. The notification shall include the following information:

    a. Description of the discharge: A description and cause of the discharge, including a description of the flow path to the receiving water body. Also, an estimation of the flow rate and volume discharged.
    b. Time of the discharge: The period of discharge, including exact dates and times, and the anticipated time the discharge is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the discharge.
    c. Cause of the discharge: If caused by a precipitation event(s), information from the onsite rain gauge concerning the size of the precipitation event must be provided.

2. Enter "Sample Measurement" data for each parameter under "Quantity" and "Quality" in units specified in permit. "Average" is normally arithmetic average (geometric average for bacterial parameters) of all sample measurements for each parameter obtained during "Monitoring Period"; "Maximum" and "Minimum" are normally extreme high and low measurements obtained during "Monitoring Period".

3. Where violations of permit requirements are reported, attach a brief explanation to describe cause and corrective actions taken, and reference each violation by date.

4. Enter "Name/Title of Principal Executive Officer" with "Signature of Principal Executive Officer or Authorized Agent", "Telephone Number", and "Date" at bottom of form.

5. Mail signed Report to Office(s) by date(s) specified in permit. Retain copy for your records.

6. More detailed instructions for use of this Discharge Report Form may be obtained from Office(s) specified in the permit.

Legal Notice

Penalties for violating the terms and conditions of a permit and/or the Water Quality Control Act are assessed on a case by case basis according to the actual or potential environmental harm that has resulted in each instance. The Water Quality Control Act authorizes the department to assess up to $10,000.00 per day, per violation, according to those conditions.

DISCHARGE REPORT FORM

PERMIT NUMBER: SOP-13007

(NOTE: Read instructions before completing this form.)

*** Required notification information per section I.B.3., Discharge Notification, may be included with this form. ***

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME **Nash Dairy Co.**
ADDRESS 4225 East Conejo Avenue
Selma, CA 93662
FACILITY Nash Dairy Company
LOCATION Bedford County, Tennessee
Attn: Mr. Steve Nash

DISCHARGE INFORMATION:

DATE: **TIME:**
DURATION:
FLOW RATE: **VOLUME ESTIMATE**
DESCRIPTION:
CAUSE:

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				No. Ex	Frequency of Analysis	SAMPLE TYPE
		Average	Maximum	Units	Minimum	Average	Maximum	Units			
E. Coli MTEC-MF, #/100mL 31648 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(13)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	#/100 ml		Once per Discharge	Grab
Flow, Total 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********		(03)	********	********	********	*****		01/DS	EST
	PERMIT REQUIREMENT	DISCHARGE PER DAY, Total		MGD	********	********	********	*****		Once per Discharge	Estimate
Nitrogen Ammonia Total (as NH4) 71845 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	********	********	*****	********	********		(19)		01/DS	GR
	PERMIT REQUIREMENT	********	********	*****	********	********	REPORT	mg/L		Once per Discharge	Grab
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

Name/Title Principal Executive Officer	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.		Telephone		Date		
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MONTH	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS ***(Reference all attachments here)***

General Instructions

1. If for any reason, there is a discharge to a water body of the state, the permittee shall make immediate oral notification within 24-hours to the Division of Water Resources (division) and notify the division in writing within five working days of the discharge from the facility. In addition, the permittee shall keep a copy of the notification submitted to the division together with the NMP. The notification shall include the following information:

    a. Description of the discharge: A description and cause of the discharge, including a description of the flow path to the receiving water body. Also, an estimation of the flow rate and volume discharged.
    b. Time of the discharge: The period of discharge, including exact dates and times, and the anticipated time the discharge is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the discharge.
    c. Cause of the discharge: If caused by a precipitation event(s), information from the onsite rain gauge concerning the size of the precipitation event must be provided.

2. Enter "Sample Measurement" data for each parameter under "Quantity" and "Quality" in units specified in permit. "Average" is normally arithmetic average (geometric average for bacterial parameters) of all sample measurements for each parameter obtained during "Monitoring Period"; "Maximum" and "Minimum" are normally extreme high and low measurements obtained during "Monitoring Period".

3. Where violations of permit requirements are reported, attach a brief explanation to describe cause and corrective actions taken, and reference each violation by date.

4. Enter "Name/Title of Principal Executive Officer" with "Signature of Principal Executive Officer or Authorized Agent", "Telephone Number", and "Date" at bottom of form.

5. Mail signed Report to Office(s) by date(s) specified in permit. Retain copy for your records.

6. More detailed instructions for use of this Discharge Report Form may be obtained from Office(s) specified in the permit.

Legal Notice

Penalties for violating the terms and conditions of a permit and/or the Water Quality Control Act are assessed on a case by case basis according to the actual or potential environmental harm that has resulted in each instance. The Water Quality Control Act authorizes the department to assess up to $10,000.00 per day, per violation, according to those conditions.

ADDENDUM TO RATIONALE AND RESPONSE TO COMMENTS

Nash Dairy Company
Permit No. SOP-13007

July 18, 2013
Prepared by: Ms. Erin O'Brien

The division received several requests for a public hearing on the draft permit. Public hearing notice NOPH-013 was issued on May 15, 2013. The public hearing notice was published on the division's webpage and in the Marshall County Tribune newspaper on May 17, 2013. The public hearing was held in the cafeteria at Forrest School, 310 North Horton Parkway, Chapel Hill, TN 37034, on Tuesday, June 25, 2013, at 6:00 pm CDT. Comments were received at the public hearing and for ten working days following the hearing. The comment period closed July 10, 2013.

The division received a number of comments regarding the draft permit for Nash Dairy Company. Comments pertaining to water quality issues associated with the proposed permit were considered and are addressed below. Comments that do not pertain to water quality issues associated with the proposed permit were retained as part of the official record, but were not addressed in this Addendum to Rationale.

Comment: **The division received several requests to deny the permit for Nash Dairy to dump animal waste into Clem Creek.**

Response: Dumping any waste, including animal waste, into any waters of the state is prohibited by the Tennessee Water Quality Control Act (TWQCA) and is punishable by law. Like all other CAFOs in the state, Nash Dairy is required to ensure that it has adequate storage of manure, litter, and process wastewater; have procedures in place to ensure proper operation and management of its storage facilities; and establish protocols to land apply manure, litter or process wastewater to ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater.

Comment: **The division received a few comments that the property still had for-sale signs posted and that the permit applicant should have to prove legal control of the site before he can obtain a permit.**

Response: The division develops and issues permits based upon the applications it receives. The division's permits are not linked to property ownership, but rather are linked to individuals/businesses that are conducting an activity that requires a permit. The division commonly permits activities that are being conducted on properties not under the ownership of the permit applicant. In addition, the division has verbally verified with the permit applicant that he has purchased the property but had not removed the for-sale signs, as of the date of the public hearing. Division staff has verified that the sign was removed as of the date of this Addendum.

Comment: **The division received a few comments that no signs or notices that the applicant had applied for a CAFO permit were posted at the proposed site.**

Response: The applicant posted a public notice sign on the property that was visible to Highway 41A on April 6, 2013, and was removed on May 7, 2013. Drive-by inspections were conducted by the permit applicant's representatives during this period to ensure that the sign remained visible. This satisfied the division's requirements.

Comment: **As a concerned citizen of Tennessee I am proud that we have a permitting process that requires certain criteria to be met before a permit is granted.**

Response: The division strives to ensure that its permitting process is transparent and that the requirements and steps for obtaining a permit are easy to understand. The division continually refines its permitting process based upon input from permit applicants, stakeholders and the public.

Comment: The division received a couple comments that given the area's weather patterns that a 25-year, 24-hour or 50-year, 24-hour design storm isn't adequate to protect the receiving waters. The division also received a comment that TDEC and the applicant should ensure that polluted water and liquid waste will not be released in a 1 in 100 severe weather event or rupture of containment or flooding.

Response: The 25-year, 24-hour design storm requirement comes from the division's rules which are based off of federal requirements for similar operations. In addition to the design storm requirement, the permit includes best management practice requirements for managing the site which together should ensure protection of the receiving waters. The division has no basis for requiring protective measures that are more stringent than those promulgated through rulemaking.

Comment: We are told that the Applicant made an oral representation at the public hearing that this (a 1 in 100 severe weather event) was the engineering standard which would be used if the permit was granted. This assurance should be explicit in the permit, if issued.

Response: The applicant made the following statements at the public hearing, "This dairy is designed not only to meet TDEC standards, but to exceed them…Once we learned the minimum requirements, we exceeded each one. Not because they were insufficient, but because we wanted to overdesign the dairy to promote the environment and prepare for future dairy regulations. This facility is designed and will be operated and maintained for no discharge of manure."

TDEC regulations require that dairy CAFOs must be designed, constructed, operated and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event. TDEC will require Nash Dairy to comply with this requirement.

Comment: The permit clearly requires that the proposed operation have no discharges unless the discharge is overflow from a 25-year, 24-hour storm event, which is a federal standard. Mr. Nash doubled that standard and intends to build his storage capacity to meet a 50-year, 24-hour storm design. Mr. Nash's permit application outlines a waste management system that exceeds TDECs guidelines and provides more than enough storage space, secondary containment, stormwater diversion and management techniques to achieve no discharge.

Response: While the 25-year, 24-hour storm event criteria is based off a federal standard, it is a state standard which has been promulgated through the division's rulemaking process. Nash Dairy is not subject to the federal standard. The division agrees that Nash Dairy has surpassed the division's design requirements and if the facility is properly operated and maintained, no discharges are expected unless there is a storm event that exceeds a 25-year, 24-hour storm.

Comment: No explanation (in the Total Maximum Daily Load for Low Dissolved Oxygen & Nutrients for Waterbodies in the Upper Duck River Watershed. Approved 08/11/2005.) is given as to why hog CAFOs must meet a 24 hour 100 year design standard while dairy CAFOs are only required to design for a 24 hours, 25 year event. We doubt that this difference is scientifically justifiable.

Response: The design storm requirement in the TMDL was likely based on a requirement that was in a previous version of TDEC Rule 1200-04-05-.14.

Comment: The division received a comment that a 25-year design doesn't mean that a discharge will happen.

Response: That is correct. Many of the CAFOs in the state have received storm events in excess of a 25-year, 24-hour storm event and have not had any discharges.

Comment: A couple commenters asked if the facility was designed to withstand an earthquake.

Response: The division does not have any promulgated requirements that CAFOs must be designed to withstand an earthquake. In the absence of any such regulations the division has no basis for implementing this type of requirement.

Comment: The division received a few comments that waste lagoons, even with clay liners, allow contaminants to leach into the ground below the lagoon. Seepage from manure holding basins and lagoons can have a serious impact on ground water quality, especially from nitrate and ammonium. Even lined basins and lagoons, when properly constructed, can be a hazard when constructed in karst terrain like the kind found in Middle Tennessee and Bedford County.

Response: The design of the lagoon and liner were reviewed by the TDA and found to be in compliance with TDEC Rule 1200-04-05-.14 which requires final design plans and specifications which meet or exceed standards in the NRCS Field Office Technical Guide.

Comment: The waste lagoon is described as an "earthen basin" that will be lined with clay. This area of Bedford County is underlain by karst geology and the lagoon is highly likely to be linked directly to groundwater. This is a potential threat to nearby wells and to the over 200 aquatic species in the Duck River and its tributaries, including 8 federally listed mussel species. We request that TDEC specify and require the installation of an impermeable liner for the proposed 3 million-gallon-capacity lagoon that is located in this ecologically sensitive and karst-driven part of the upper Duck River watershed.

Response: The design of the proposed lagoon and liner was reviewed by TDA and found to be in compliance with the standards and specifications in the NRCS Field Office Technical Guide, which takes into consideration the depth to bedrock and geologic conditions.

Comment: Because of the makeup of the soil around this proposed site, mainly limestone, the ground water is most likely going to also be contaminated.

Response: The purpose of the site-specific nutrient management plan that is required for this operation is to ensure that all nutrients are handled in such a manner so as to prevent contamination to waters of the state, which includes both surface and ground water. So long as Nash Dairy maintains compliance with the terms and conditions of their permit and follows their NMP, which has been reviewed and approved by TDA, no contamination is expected to waters of the state.

Comment: Groundwater pollution can be caused by leaking waste storage structures, and improper or overapplication of wastes on fields. The use of injection systems for shooting wastes directly into the soil is encouraged as a method to keep odor from CAFO land application down, however there is significant concern that this could simply lead to quicker travel time through the soils into field drainage tiles. Some

CAFO owners have converted field drainage tiles into de facto septic systems by plugging them with gate valves and other devices. These systems at best only delay the pollution and don't keep pollution from flowing to groundwater. They certainly don't remove pathogens. Groundwater is difficult to monitor, so the extent and source of contamination are often harder to pinpoint than surface water contamination.

Response: Design requirements for the facility prohibit any discharges from waste storage structures. Likewise, the NMP is written to ensure that there will not be over-application of nutrients. Based on comments from the permit applicant's consultant, this site does not have any field drain tiles in any areas designated to receive manure applications.

Comment: The division received a few comments that when CAFO wastes are applied to farm fields, water pollution can be caused by overapplication of wastes, direct runoff into surface waters, or by traveling through the ground- or catch basins into field tiles or drainage ditches that discharge directly into surface waters.

Response: All CAFOs are required to land apply manure, litter, and process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater. In addition, the applicant had to perform a field-specific assessment of the potential for nitrogen and phosphorus transport from the field to surface waters, addressing their nutrient applications on each field planned to achieve a realistic yield goal. As part of the permit application review the TDA reviewed the applicant's NMP to ensure that these requirements had been met. In addition, section I.B.5 of the permit requires Nash Dairy to calculate the maximum amount of manure, litter, and process wastewater to be land applied at least once each year using the results of their most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application. If Nash Dairy complies with all of these requirements then there should not be an over-application of nutrients.

Comment: Manure wastes are also sprayed from travel irrigators, trucks, tractors, or draglined. This waste can flow directly into surface waters due to wind, by direct discharge from running over a drain or waterway, or through malfunctions of the equipment.

Response: Section III.C.3 of the permit contains best management practices (BMPs) for the land application of animal waste that must be implemented through the permittee's NMP. Those BMPs include requirements for periodic inspection of equipment used for land application of manure, litter and other process wastewater; application setbacks from potable wells, any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters; application timing requirements such that there is no land application of nutrients including manure, litter or process waste water, within 24 hours of a precipitation event that may cause runoff from the fields and no land application of nutrients to frozen, flooded, or saturated soils when the potential for runoff is high. Animal waste from a CAFO should not flow into surface waters if the CAFO complies with all of these requirements.

Comment: The division received a couple comments expressing concern that pathogens (such as E. coli bacteria, cryptosporidium, salmonella and C. parvum) may be present in CAFO wastes and that the pathogens may contaminate waters of the state, especially when the waste is used as fertilizer.

Response: As was stated in the previous response, animal waste from the facility, including land application areas, should not flow into surface waters if the permittee complies with the permit requirements.

Comment: **The runoff from this huge operation is indeed a threat to not only the immediate area, but widespread with the contamination of the Duck River which is the water source for thousands of people.**

Response: The permit requires that there is no contaminated runoff from the production area unless it is the result of an overflow of the waste retention structure resulting from a storm event greater than a 25-year, 24-hour storm event. Stormwater runoff from the land application fields that are being operated in compliance with the terms and conditions of this permit should not contain contamination and thus is not expected to cause any harm to surface waters.

Comment: **We believe the state has outlined more than adequate requirements for land application of nutrients. The state requires site specific nutrient management plans which ensure nutrients are applied at agronomic rates. The operation must have a field specific assessment of transport potential of phosphorus and nitrogen and buffer zones around waters and conduits to water must be used. By requiring land application best management practices, a nutrient management plan, soil testing, manure analysis, and records of these practices for 5 years, any discharge from land application will be virtually non-existent.**

Response: No discharges of contaminated stormwater runoff are expected from the land application fields at this site.

Comment: **We request that TDEC enforce the language in section C.3.e. as a mandatory element of this permit.**

> ***C.3.e. For new CAFOs that are located adjacent to exceptional Tennessee waters and outstanding national resource waters (as identified by the department), leave in place a minimum 60-footnatural riparian buffer between the stream and the land application area.***

The minimum natural buffer of sixty (60) feet in width between application fields and all streams that is required in this section must be applied to all water conveyances and sinkholes. The NRCS minimum required width of 35' is insufficient and unacceptable. A minimum natural buffer width of 60' or a vegetated buffer width of 100' should be a permit requirement and not a "recommendation".

Response: Nash Dairy is not located adjacent to any waters that are listed as Exceptional Tennessee Waters or outstanding national resource waters; as such a 60-foot natural riparian buffer between the stream and the land application area is not required. Nash Dairy will be maintaining 35-foot wide vegetated buffers next to all receiving streams, which is authorized in the permit. No applications of manure, litter or process wastewater will be allowed in the vegetated buffers.

Comment: **The absolute highest standards and oversight must be set for the application of waste on shallow soils and in proximity to streams and karst features. This includes waste application on the Nash site and on any adjoining sites where manure is being applied.**

Response: Any waste applications on the Nash Dairy site will have to meet the requirements specified in the permit, which include application at rates that will minimize phosphorus and nitrogen transport from the field to surface waters, manure and soil analysis requirements, equipment inspection, non-application buffers, and application timing restrictions. The division does not have the authority to restrict applications of manure on

sites owned or operated by third-party recipients of waste from Nash Dairy or any other CAFO.

Comment: **The "zero discharge" claim for the draft permit is equally deficient for failing to address the flow of "nutrients" to surface and underground waters from the spreading of liquid and solid manure. The applicant's "Nutrient Management Plan" (NMP) says that there will be 35 foot "filter strips". It is not clear if these meet the definition of "vegetated buffers" as stated in the boilerplate of the draft permit.[1] Nor is TDEC's buffer strip definition – "minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters" the same as zero discharge.**

Response: As this comment stated, the permit requires a 35-foot wide vegetated buffer (this is an alternative to a 100-foot setback or a 60-foot natural riparian buffer), where applications of manure, litter, or process wastewater are prohibited. Regardless of the language used to describe the buffer in the NMP, the applicant will be required to comply with the permit requirement.

The permit also requires that, "*There must not be land application of nutrients including manure, litter or process waste water, within 24 hours of a precipitation event that may cause runoff from the fields. The operator shall not land apply nutrients to frozen, flooded, or saturated soils when the potential for runoff is high.*" Coupled with other land application requirements in the permit, these requirements are intended to help minimize the discharge of any pollutants from the land application fields.

Comment: **The NMP and the draft permit also fail to specify if this (buffer width) is the minimum width at all points from the average high water mark for surface waters and watercourses. This is important since liquid manure spreading is proposed for fields on both sides of Clem Creek, doubling the creeks exposure to polluted runoff.**

Response: The following sentence was added to section III.C.3 to clarify the buffer width measurement, "*All buffer zones required under this section should be established between the top of stream bank and the land application area.*"

Comment: **Runoff from manure on frozen ground can result in significant levels of fecal coliform.**

Response: As is stated in section I.B.3 of the permit, "The operator shall not land apply nutrients to frozen, flooded, or saturated soils when the potential for runoff is high." Given that no land applications of manure are allowed when the ground is frozen, no runoff from manure on frozen ground is anticipated or authorized.

Comment: **CAFO waste is usually not treated to reduce disease-causing pathogens, nor to remove chemicals, pharmaceuticals, heavy metals, or other pollutants.**

Response: The division does not regulate the constituents that may be present in CAFO waste from the normal operation of the dairy. However, chemicals are not allowed to be disposed of in the facility's waste retention structures. As is stated in subpart III.C,

a. The permittee shall prevent discharge of pesticide-contaminated waters into retention structures. All wastes from dipping vats, pest and parasite control

[1] "Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters." (Draft permit, p.9)

units, and other facilities utilized for the management of potentially hazardous or toxic chemicals shall be handled and disposed of in a manner such as to prevent pollutants from entering the retention structures or waters of the state.

b. All discharges to containment structures shall be composed entirely of wastewater from the proper operation and maintenance of a CAFO and the precipitation runoff from the CAFO areas. The disposal of any materials (other than discharges associated with proper operation and maintenance of the CAFO) into the containment structures is prohibited by this permit.

Comment: The division received a few comments in concern that any hormones used at the site will seep into surface and ground waters and eventually cause problems. Alternately, the division also received a comment that the dairy will have to certify that there are no growth hormones in the milk produced by the dairy.

Response: The division does not have specific numeric water quality criteria in its water quality standards that can be used in limiting discharges of antibiotics or hormones in animal waste. In addition, as stated in the response above, chemicals are not allowed to be disposed of in the facility's waste retention structures.

Comment: The division received a few comments that agriculture is a major source of nitrate pollution in groundwater. The Centers for Disease Control has established a link to spontaneous abortions and high nitrate levels in drinking water wells located near feedlots and increased risk of and blue baby syndrome.

Response: The division recognizes that nutrients from agricultural sources have the potential to be a major source of contamination to waters of the state. TDEC Rule 1200-04-05-.14 requires all CAFOs to develop a site-specific NMP to address management of nutrients at a CAFO and to ensure appropriate agricultural utilization of all nutrients that are land applied.

Comment: I have observed the farm that the CAFO would be operated on from the road and all the front is low lying terrain that does not drain well. I wound bet the front 30-50 acres would be in a flood plain. The creek that goes thru farm has great potential to be polluted with animal waste and carried directly into the Duck River which I fish on regularly.

Response: Land application of animal waste is not allowed within 24 hours of a precipitation event that may cause runoff from the fields. Nash Dairy is also required to maintain a 35-foot wide vegetated buffer (this is an alternative to a 100-foot setback or a 60-foot natural riparian buffer), where applications of manure, litter, or process wastewater are prohibited. In addition, Nash Dairy will be injecting all liquid manure into the soil which should further assist in ensuring that animal waste is not washed off of the fields.

Comment: I hope that the permit is withheld until experts can better analyze the farm terrain in question, the amount of waste disposal at risk to entering the Duck River Watershed and the potential damage to the stream.

Response: The TDA has reviewed Nash Dairy's NMP and has determined that all animal waste will be applied at appropriate agronomic rates to ensure appropriate agricultural utilization of the nutrients in the facility's manure and process wastewater. Subpart III.B of the permit requires Nash Dairy to use an assessment of the potential for nutrients to be transported from the field when determining nutrient application rates; it reads:

"Nutrient application rates shall be based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to

achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters.

Application rates for manure, litter, and other process wastewater applied to land under the ownership or operational control of the CAFO must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the technical standards for nutrient management established by the director."

Comment: **The introduction of such a large scale factory farm on Clem Creek could have a detrimental effect on the Duck River's water quality. I urge you to deny this permit unless there are ample methods to control and clean the waste produced by the Nash Dairy Company so that the river's quality is not impaired.**

Response: The permit applicant has developed and submitted for state approval from TDA a site-specific NMP; TDA has determined that the applicant's NMP meets all of the state's requirements and has approved Nash Dairy's NMP. In addition, Nash Dairy has exceeded many of the state's design requirements for the proposed facility. Operation of the facility in compliance with the terms and conditions of the permit and the approved NMP is expected to be fully protective of all receiving waters.

Comment: **The volume of liquid manure is a very large addition to the existing pollution from pastures and agriculture. Subwatershed 405 in which the proposed CAFO would be located had, at the time of the TMDL (Total Maximum Daily Load for Low Dissolved Oxygen & Nutrients for Waterbodies in the Upper Duck River Watershed. Approved 08/11/2005.), only 105 dairy cows and this single operation would add 1,800 dairy cows in this single subwatershed.**

The tonnage of liquid manure to be spread on the operator's single farm and the export of solid manure to surrounding farms is proposed to be permitted without any recognition of the impaired state of the subwatershed and the creek that flows through the site proposed to be loaded with manure, apparently forever.

Response: The receiving stream, Clem Creek, is not assessed as being impaired or water quality limited. Permits are written based on the most recent stream assessment information and the TMDL is not an assessment document. The permit writer discussed Clem Creek with the division's Planning and Standards staff and found that while Clem Creek had previously been assessed as impaired, the previous assessment was revised and Clem Creek was removed from the division's list of water quality limited streams, which is commonly referred to as the 303(d) list.

The division does not have the authority to restrict applications of manure on sites owned or operated by third-party recipients of waste from Nash Dairy or any other CAFO. Third-party recipients of waste from Nash Dairy or any other CAFO are required to sign an Agreement for the Removal of Litter, Manure and/or Process Wastewater. The agreement lists waste management BMPs that the third-party recipient is encouraged to follow to help protect water quality. Nash Dairy is also required to provide any third-party recipient with a copy of its most recent manure analysis, taken within the past year, so that the recipient knows the nutrient content of the waste they are receiving and thus will be able to apply the waste at appropriate rates.

Comment: **The division received a couple comments that according to the TMDL for the Upper Duck watershed Clem Creek is polluted by nutrients – nitrogen and phosphorus – primarily from agriculture, and especially from field pastures. This permit should be denied because it significantly and cumulatively will increase the "nutrient" pollution load and deficient dissolved oxygen on Clem Creek and the waters which Clem Creek feeds (the Duck River, etc).**

Response: As stated in the previous response, Clem Creek is not assessed as being impaired or water quality limited; the assessment used in development of the TMDL (Total Maximum Daily Load for Low Dissolved Oxygen & Nutrients for Waterbodies in the Upper Duck River Watershed. Approved 08/11/2005.) has been revised. Operation of Nash Dairy in compliance with the terms and conditions of this permit is not expected to contribute nutrients or dissolved oxygen demand to Clem Creek.

Comment: It appears that Clem Creek has Unavailable Conditions which exist where water quality is at, or fails to meet, the criterion for one or more parameters.

Response: Clem Creek's previous assessment was revised and Clem Creek is not currently assessed as having unavailable conditions.

Comment: The TMDL asserts that CAFOs in this watershed have no Waste Load Allocation. Apparently this means that CAFOs are treated as "zero discharge" permit operations.

"8.3.3 NPDES Regulated Concentrated Animal Feeding Operations (CAFOs)
All wastewater discharges from a CAFO to waters of the state of Tennessee are prohibited, except when either chronic or catastrophic rainfall events cause an overflow of process wastewater from a facility properly designed, constructed, maintained, and operated to contain:

All process wastewater resulting from the operation of the CAFO (such as wash water, parlor water, watering system overflow, etc.); plus,

All runoff from a 25-year, 24-hour rainfall event for the existing CAFO or new dairy or cattle CAFOs; or all runoff from a 100-year, 24-hour rainfall event for a new swine or poultry CAFO.

A WLA of zero has been assigned to this class of facilities."

(TMDL p.44)

Response: The following explanation regarding the determination of the waste load allocation for CAFOs was taken from Appendix G, Development of Stage I Nutrient & $CBOD_5$ WLAs & LAs, of the TMDL:

CAFOs are not authorized to discharge process wastewater from a liquid waste handling system except during a catastrophic or chronic rainfall event. Any discharges made under these circumstances, or as a result of a system upset or bypass, are not to cause an exceedance of Tennessee water quality standards. Therefore, a WLA of zero has been assigned to this class of facilities.

Comment: The TMDL calls for a 43.3% reduction in total nitrogen in surface waters in subwatershed 403 (p.43) yet TDEC has taken no action to achieve this result - no wasteload allocations for CAFOs, or other limitations on the recognized sources of agricultural based pollution. While the State Operating Permit is not subject to EPA review, the draft permit and the numerous other CAFO permits issued in the area are inconsistent with the TMDL goals. We are considering requesting EPA review of the Upper Duck TMDL and TDECs continued allowance of more and more CAFOs.

Response: The TMDL is implementing a waste load allocation of zero for CAFOs through best management practices (BMPs) required by CAFO permits. The following language was taken from the Implementation Plan of the TMDL, section 9.1.3 (NPDES Regulated Concentrated Animal Feeding Operations (CAFOs)),

WLAs provided to CAFOs will be implemented through NPDES Permit No. TNA000000, General NPDES Permit for Class II Concentrated Animal Feeding Operation or the facility's individual permit. Among the provisions of the general permit are:

- *Development and implementation of a site-specific Nutrient Management Plan (NMP) that:*
    a. *Includes best management practices (BMPs) and procedures necessary to implement applicable limitations and standards;*
    b. *Ensures adequate storage of manure, litter, and process wastewater including provisions to ensure proper operation and maintenance of the storage facilities.*
    c. *Ensures proper management of mortalities (dead animals);*
    d. *Ensures diversion of clean water, where appropriate, from production areas;*
    e. *Identifies protocols for manure, litter, wastewater and soil testing;*
    f. *Establishes protocols for land application of manure, litter, and wastewater;*
    g. *Identifies required records and record maintenance procedures. The NMP must submitted to the State for approval and a copy kept on-site.*
- *Requirements regarding manure, litter, and wastewater land application BMPs.*
- *Requirements for the design, construction, operation, and maintenance of CAFO liquid waste management systems that are constructed, modified, repaired, or placed into operation after April 13, 2006. The final design plans and specifications for these systems must meet or exceed standards in the NRCS Field Office Technical Guide and other guidelines as accepted by the Departments of Environment and Conservation, or Agriculture.*

This section also states that, "*Provisions of individual CAFO permits are similar*." The provisions of Nash Dairy's permit are similar to those listed in this section.

The division has no authority to place limitations on sources of agricultural based pollution aside from CAFOs unless the division is able to prove that an individual or facility is causing pollution to waters of the state.

EPA has already reviewed the TMDL in question and approved it on August 11, 2005.

Comment: **I assert that a permit for any large scale operation such as this CAFO must first be conducted to determine the impact on TMDL for the Upper Duck Watershed. The Nash Dairy will be relying on other farms to utilize excrement which may not be required to file a nutrient plan. This will contribute to a wider watershed TMDL.**

Response: Any waste applications on the Nash Dairy site will have to meet the requirements specified in the permit, which include application at rates that will minimize phosphorus and nitrogen transport from the field to surface waters, manure and soil analysis requirements, equipment inspection, non-application buffers, and application timing restrictions. In addition, Nash Dairy's NMP contains the BMPs that are described in the TMDL for the Upper Duck Watershed Low Dissolved Oxygen & Nutrients. The permit and NMP for Nash Dairy are considered to be in compliance with the requirements of the TMDL.

The division does not have the authority to restrict applications of manure on sites owned or operated by third-party recipients of waste from Nash Dairy or any other CAFO. Third-party recipients of waste from Nash Dairy or any other CAFO are required to sign an Agreement for the Removal of Litter, Manure and/or Process Wastewater. The agreement lists waste management BMPs that the third-party recipient is encouraged to follow to help protect water quality. Nash Dairy is also required to provide any third-

party recipient with a copy of its most recent manure analysis, taken within the past year, so that the recipient knows the nutrient content of the waste they are receiving and thus will be able to apply the waste at appropriate rates.

Comment: **The division received a couple comments that neither the draft permit nor the Nutrient Management Plan address the cumulative impacts of the manure spreading on the watershed. This area that already has 30 or more CAFOs, but nothing in the permit assures that exported manure will only be delivered to farms and put on soils that actually can use and absorb nutrients. TDEC and the Department of Agriculture have no system which reviews the records of manure export to assure that manure is placed where it might genuinely be beneficial nor does either TDEC or DoA review the actual placement to assure that there is no runoff to adjacent surface waters. If this is incorrect, please describe the monitoring that is done and its frequency in the notice of determination or Rationale for the permit if it is issued.**

Response: The TWQCA does not provide the division the authority to regulate land application of animal waste at facilities that do not meet the definition of a CAFO. However, causing a condition of pollution to waters of the state is a violation of the TWQCA. Any facility or entity, including third-party recipients of animal waste from a CAFO, which causes a condition of pollution, may be subject to enforcement action.

Comment: **Often you'll hear owners of CAFOs argue that the wastes produced by the livestock provide nutrients that help them offset the use of synthetic fertilizers. The sheer amount of wastes produced, however, often overwhelms the ability of the land and crops to absorb CAFO wastes.**

Response: Nash Dairy is going to use a solids separator to separate the liquid and solid portions of their animal waste. Liquid manure will be recycled and used as flush water. All liquid manure will be field applied on the site. Any acres on the site that do not receive liquid manure will receive solid manure. All manure applied on the site will be done at appropriate rates to ensure that there will not be an over-application of nutrients.

Most of the solid manure will be exported to neighboring farms. Manure separation will facilitate Nash Dairy being able to export waste to greater distances than un-separated manure.

Comment: **Milkhouse wastes can include anything from bad milk, or milk that was contaminated and cannot be sold, to the chemicals and cleaners used to sanitize the milking parlor. Milkhouse wastes are a huge source of nutrients, and can cause degraded water conditions if allowed to reach surface water.**

Response: Nash Dairy's waste retention structure has been designed to include wasted milk, where it will be mixed with manure. All the wastewater (manure combined with wasted milk) will have to be stored and disposed of following the requirements for nutrient analysis, application timing, land application BMPs, etc. Chemicals are not allowed to be disposed of in the facility's waste retention structures. Trace chemicals resulting from equipment sanitation is allowed to be disposed of in the waste retention structure. See subpart III.C. of the permit for the prohibition of chemical disposal in the waste retention structure.

Comment: **Nutrients in CAFO waste can cause algae blooms, oxygen depletion, and fish kills.**

Response: The permit contains many requirements for proper management of waste to ensure that it does not enter waters of the state. Nutrients in CAFO waste should not cause pollution to waters of the state, including those issues listed here, so long as the CAFO complies with the terms and conditions of the permit.

Comment: **The division received a couple comments about the potential impact on drinking water quality and drinking water treatment requirements due to the proposed facility.**

Response: CAFO waste from Nash Dairy should not get into waters of the state and thus it shouldn't cause any additional treatment to be required by any downstream drinking water plants.

Comment: **The division received several comments expressing concern about Nash Dairy's plan to withdraw water from Clem Creek. Concerns included increased stress from additional demands on already low water sources, concentration of pollution in the receiving stream, and questions about how much water will be taken from Clem Creek, how will it be returned to maintain normal flow, and in what condition.**

Response: The division notes these concerns. However, water withdrawal for agricultural uses is authorized by the Tennessee Water Quality Control Act. In addition, proper operation and maintenance of the proposed dairy should prevent it from contributing pollution to Clem Creek or any other receiving waters.

Comment: **Clem Creek has not been assessed and is therefore not listed as an impaired stream on the 2012 303(d) list. However, 77 miles of streams adjacent to the Clem Creek sub-watershed are listed as impaired for nutrients, E. coli, loss of biological integrity, and habitat alteration. These listed streams are Weakley, Wilson, Alexander, and North Fork. It is likely that an assessment would reveal that Clem Creek is not meeting all designated uses as defined by the State. Clem Creek is a tributary to North Fork Creek, which flows into the Duck River in a reach that is federally designated as Critical Habitat for numerous threatened and endangered species.**

Response: If Clem Creek were assessed and found to have unavailable conditions, new or increased discharges of a substance that would cause or contribute to a condition of impairment would not be allowed. However, the division maintains that the operation of Nash Dairy in compliance with the terms and conditions of this permit and the NMP that has been approved by TDA would not cause or contribute to a condition of pollution.

Comment: **The draft permit begins with a misstatement. It says that: "Nash Dairy Company, a dairy farm, . . . is authorized to operate a concentrated animal feeding operation (CAFO), which is located near Clem Creek." Clem Creek, apparently traverses the farm as does another watercourse not identified on any of the maps or diagrams.**

Response: Portions of Clem Creek run through sections of some of the fields on the property. Additionally, it appears that a drainage way crosses sections of other fields on the property. A formal stream determination has not been conducted on this drainage way. However, the NMP shows that a 35-foot filters strip and setback will be used on this drainage way, offering the same protection as a stream would receive. Permit conditions are protective of both of these water courses.

Comment: **Tributary streams in this part of Bedford County are included in the ten locations where the striated darter (Etheostoma striatulum), is known to occur (Ettnier). The fish is endemic to the Duck River, is designated as vulnerable by the USFWS, and is in serious decline due to agricultural impacts (Ettnier). Clem Creek has not been surveyed in recent years, however the striated darter occurs in surrounding streams such as Alexander and Fall creeks, and is found in North Fork Creek, downstream of the mouth of Clem Creek. A current survey to ascertain the presence/absence of the species should be conducted as part of this permitting process.**

Response: It is the division's goal to assure protection of all state or federal listed threatened or endangered aquatic or wildlife species (TES) deemed in need of management or special concern species, or such species' habitat. State Water Quality Standards are inherently protective of all fish and aquatic life, including any TES. Discharges from sites that are in compliance with permit terms and conditions are in compliance with Water Quality Standards and, therefore, protective of any TES. The primary responsibility for administering the Endangered Species Act (ESA) is with the U.S. Fish and Wildlife Service (USFWS). Additional stream surveys for the presence of TES are beyond the division's regulatory scope. USFWS or the Tennessee Wildlife Resources Agency (TWRA) may be able to conduct such surveys.

Comment: We urge TDEC to work with the applicant, NRCS, TDA, TWRA, and the Technical Service Provider to accumulate all relevant data and to apply the highest possible level of waste, manure, and mortality management as mandatory components of the CAFO permit. All applicable and appropriate agricultural Best Management Practices should implemented. We urge TDEC to provide the clear guidelines and regulatory oversight necessary to ensure strict compliance and appropriate response to unforeseen and/or catastrophic events.

Response: TDEC and the division routinely work with other agencies during the development of regulations and program requirements. The division has ongoing partnerships with USDA-NRCS, TDA, and the University of Tennessee Extension related to the development of appropriate agricultural BMPs and other requirements for CAFOs. Division staff routinely consults with permit applicants and their consultants to ensure understanding of regulatory requirements. In addition to periodic site inspections to ensure compliance, the division also checks with permittees following significant weather events to check on the status of facilities. In the event of any unforeseen and/or catastrophic events the division will make every effort to ensure that appropriate agencies are notified of issues of concern.

Comment: It is TDEC's responsibility as a permitting authority to hold agricultural entities responsible, to require compliance with the highest possible environmental standards, and to minimize the impacts of the Nash Dairy to the greatest extent possible.

Response: As the permitting authority, the division fully intends to require Nash Dairy to operate in compliance with the terms and conditions of their permit. In addition to conducting periodic inspections to evaluate permit compliance, the division will investigate any water quality complaints that it receives about Nash Dairy.

Comment: When the first dairy CAFO permit is issued for 1500 animals, doesn't that make the next Dairy CAFO for 10000 animals that much easier to permit?

Response: The division does not permit CAFOs based on the existence of other similar operations in the state. All CAFO permit applications are evaluated on an individual basis. If the permit application, which includes a site-specific NMP, meets the applicable regulatory requirements, then the division is obligated to issue an appropriate permit.

Comment: Animals frequently die in CAFOs. Their carcasses must be dealt with.

Response: The division recognizes that animal carcasses have the potential to cause water quality issues. Subpart III.F. of the permit requires management of mortalities. It states:

> *The permittee must ensure proper management of mortalities (i.e., dead animals) so that they are not disposed of in a liquid manure, stormwater, or process wastewater*

storage or treatment system that is not specifically designed to treat animal mortalities. Mortalities must be handled in such a way as to prevent the discharge of pollutants to surface water.

Comment: Infestations of flies, rats, and other vermin are commonplace around CAFOs.

Response: Pest control at CAFOs is beyond the regulatory scope of the division.

Comment: In the production area, spills, overflows, and tracking of wastes on tractor and truck tires can cause surface runoff of contaminants.

Response: Overflows of the waste retention structure are only authorized if Nash Dairy is in compliance with the terms and conditions of their permit and the overflow results from a storm event that is greater than a 25-year, 24-hour storm event. Contribution of pollution from spills and waste tracking is not authorized by this permit and could result in enforcement action.

Comment: Stormwater that mixes with manure wastes, silage leachate, or milkhouse wastes can flow into drains.

Response: Item g under section III.C.1 requires that, "*Uncontaminated stormwater runoff shall be diverted away from manure, litter, process wastewater, waste retention structures, and mortality management areas, i.e., lagoons, under floor pits, composters, etc*." Any stormwater that does mix with any wastes becomes wastewater and will have to be stored and disposed of following the same requirements for manure, litter, or process wastewater.

Comment: Pipes or hoses carrying wastes can break or become unattached. Waste storage structures can overflow or burst.

Response: To help prevent such problems, the permit has several inspection and maintenance safeguards in place. The permit requires that all water lines be inspected daily and all manure, litter, and process wastewater impoundments must be inspected weekly, see section I.D.1. The permit also requires periodic inspection of equipment used for land application of manure, litter and other process wastewater (see subsection III.C.3.c.) and proper operation and maintenance of all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the permit conditions (see subpart II.C.). Should Nash Dairy have a discharge of manure or wastewater to waters of the state or an overflow or discharge from a waste retention structure, Nash Dairy must make oral notification to the division within 24-hours.

Comment: Field tiles or catch basins can be installed that drain wastes directly into surface waters.

Response: No field tiles will be used on the Nash Dairy site.

Comment: The division received several comments in support of the proposed Nash Dairy.

Response: While the division appreciates all comments received during the public notice period, our decision regarding permit issuance is ultimately based on protection of designated uses of receiving stream(s), rather than public support of any particular project.

Comment: College students in the Ag Department at MTSU would benefit from having a nearby example of a significant dairy that is well-managed that can show how to implement innovative production ideas and demonstrates a well-designed water quality/waste management system.

Response: As was previously stated, while the division understands and appreciates the benefit of having a well-designed water quality/waste management system at a large dairy available for demonstration purposes, our decision regarding permit issuance is ultimately based on protection of designated uses of receiving stream(s).

Comment: It is my understanding that this facility will be built to protect the environment, including nearby streams and rivers, and is designed for no discharges of waste water.

Response: As designed, the division expects Nash Dairy to be fully protective of the designated uses of receiving streams.

Comment: Dairy operations like the proposed Nash Dairy Company farm can operate in Tennessee without posing risks to water quality and the local community. Waste management techniques and dairy cattle management used in other parts of the nation have proven this type and size of operation can exist within the regulations of the federal Clean Water Act and the state Water Quality Control Act.

Response: The division believes that all CAFOs, regardless of size, can operate in compliance with the federal Clean Water Act and the Tennessee Water Quality Control Act, when they are properly designed, constructed, operated, and maintained.

Comment: We believe the CAFO permit process goes well beyond what is needed to protect the public's water resources and by coming to Tennessee, Mr. Nash has agree to meet that high standard set in the proposed permit.

Response: Compliance with Tennessee's CAFO regulations, which are implemented through permits issued by the division, is expected to provide full protection of the designated uses of waters of the state.

Comment: Our environment and economy would be far better served by the State of Tennessee facilitating the establishment of small local dairy and milk processing facilities throughout Tennessee.

Response: The division is responsible for development and issuance of permits that are protective of designated uses of waters of the state. Efforts to promote small dairies and milk processing facilities, while supported by the division, are beyond the scope of the division's regulatory programs.

Comment: Small farms put more waste into streams than this facility will.

Response: No waste is expected to be discharged into waters of the state from Nash Dairy. The division is unable to comment on other facilities without knowing specific details.

Comment: How long will it take to shut down if compliance issues; how long to address violations?

Response: The TWQCA does not give the division the authority to shut a facility down. Should the division find that Nash Dairy is operating in non-compliance with any of the terms and conditions of their permit, we will take appropriate enforcement action to address the non-compliance. Nash Dairy will be given immediate verbal notification of any non-compliance upon determination by division staff of non-compliance. Division staff will follow-up to verify that all necessary corrective actions have been completed.

Comment: **It does not appear that any inquiry has been made as to the permit applicant's compliance with environmental protection laws and permit requirements during the years of operation of the proposed activity in California. Any history of environmental violations should be strictly scrutinized and any conditions necessary to avoid environmental injury by the proposed operation in Tennessee should be included in the permit and the Nutrient Management Plan (NMP).**

Response: Tennessee does not have a bad-actor clause in the TWQCA or associated rules thus history of alleged environmental violations in another jurisdiction are not appropriate for consideration in this permitting action. Additionally, permit conditions are sufficient to avoid environmental injury by the permittee.

Comment: **The NMP is vague and ambiguous to the extent that some portions are unenforceable. For example: "It is recommended that samples from a bedded pack be taken during loading." Or "Although soils can be tested any time during the year, fall is a very desirable time. The following general guidelines may be used to determine how often soils should be tested: (NMP p.7) statements with "recommendations" and "may" appear several times in key provisions of the NMP. The Director, if the permit is issued as drafted, and with the NMP as approved by the Department of Agriculture, is adopting a vague and unenforceable set of protocols for some of the key provisions.**

Response: TDA has determined that the NMP complies with the division's requirements. In addition, the division understands that with any farming operation there will be some uncertainty when dealing with factors beyond the control of an operator, such as weather. And, as is common with agricultural or industrial operations, there frequently may be more than one way to comply with regulatory requirements.

Comment: **We note that the NMP as provided to the public for review does not contain the certification required for all parts of permit application:**

SIGNATORY REQUIREMENT

All applications, reports, or information submitted to the commissioner shall be signed and certified by the persons identified in 1200-04-05-.05(6)(a-c), making the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Response: The NMP was submitted along with a signed notice of intent (NOI), which contains the necessary certification statement. The NMP and the NOI were saved as two separate documents in the division's database which may have contributed to the uncertainty over the compliance with this requirement.

Comment: **This is an SOP. We find no authorization in the Tennessee Water Quality Control Act for the Commissioner and the Department to delegate to another agency a key step of approving a nutrient management plan as part of a state water pollution control permitting process. The absence of authority only emphasizes the conflict of**

interest in having NMPs approved by an agency chartered by state law to advocate for and expand agriculture and which does not have TDECs directive that the waters of the state are held in trust.

Response: The final decision on the acceptance of an NMP is not delegated to TDA. However, the division has made an agreement with TDA that makes use of their nutrient management expertise. TDA provides information and makes recommendations to TDEC. However, TDEC retains the authority to review and evaluate the information from TDA and to make the final decisions on all critical aspects of the CAFO permit, including the NMP.

Comment: The published regulations give the public and producers direction in planning an operation. To change the requirements at this stage, or to disallow the permit would be detrimental to the dairy industry and Tennessee.

Response: The division does not have the authority to change the published regulations without following established rulemaking procedures. In addition, the division believes that it is important to maintain readily accessible regulatory requirements so that new or expanding operations are able to make design decisions.

Comment: The state of Tennessee has written in the law guidelines which must be met for a permit. It appears to me that Mr. Nash has met those guidelines and exceeded them. That being the case TDEC can only base the permit conveyance on whether the guidelines are met or not. …TDEC and TDA only have the responsibility to determine if the plan includes those things that will allow Nash dairy to comply with the laws of our state and to ensure that Nash dairy implements the safeguards written in the plan. Any change in state requirements would need to come through the Tennessee legislature.

Response: The division is responsible for development and issuance of permits that are protective of designated uses of waters of the state. Our decision regarding permit issuance was based on protection of designated uses of receiving stream(s) and compliance with the applicable regulations.

Comment: The division received several requests to deny the proposed permit.

Response: The TWQCA requires the division to issue permits for CAFOs. The division will issue a permit that it believes is protective of waters of the state. Permit denial is only appropriate if the proposed activities would result in the violation of applicable water quality standards.

RATIONALE

Nash Dairy Company
Chapel Hill, Bedford County, Tennessee
Permit No. SOP-13007

April 2013

Permit Writer: Erin O'Brien

I. DISCHARGER

Nash Dairy Company
3983 Highway 41A North
Chapel Hill, Bedford County, Tennessee

Contact Person:
Mr. Steve Nash
4225 East Conejo Avenue,
Selma, TN 93662
Phone Number: 559-891-9032

Nature of Business: Dairy production

SIC Code(s): 0241 (Dairy Farms)

II. PERMIT STATUS

This application was initiated on January 9, 2013.
Supplemental information was received and the application was deemed complete on April 1, 2013.

Environmental Field Office: Columbia
Primary Longitude: -86.604413 Primary Latitude: 35.648531

III. FACILITY ADJACENT WATERS

Nash Dairy Company will be constructing and operating a dairy farm at 3983 Highway 41A North in Chapel Hill, Bedford County, Tennessee. This operation is located near Clem Creek. All wastewater discharges from a CAFO production area to waters of the state of Tennessee are prohibited, except when either a chronic or catastrophic rainfall event causes an overflow of process wastewater from a facility properly designed, constructed, operated, and maintained to contain all process wastewater resulting from the operation of the CAFO (such as wash water, parlor water, watering system overflow, etc.).

Clem Creek is classified for fish and aquatic life, recreation, irrigation, and livestock watering and wildlife.

IV. PERMIT LIMITS AND MONITORING REQUIREMENTS

The following limitations will be established for the operation of a Concentrated Animal Feeding Operation (CAFO) at Nash Dairy Company.

Application rates for manure, litter, or process wastewater to land under the ownership or operational control of the CAFO must be managed to minimize phosphorus and nitrogen transport from the application field to waters of the state according to the permittee's site-specific nutrient management plan (NMP).

A. DISCHARGE CRITERIA

Whenever precipitation causes an overflow of manure, litter, or process wastewater, pollutants in the overflow may be discharged into waters of the state provided that:

a. The production area is designed, constructed, operated and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event, at a minimum (Note: Per application information, Nash Dairy's liquid waste holding pond was designed for a 50-year, 24-hour storm event, equivalent to 6.48 inches of precipitation for this location);
b. The production area is operated in accordance with the requirements of this permit.

If a catastrophic event causes a discharge from the facility, the discharge will be authorized under the Upset conditions of this permit (subpart II.O) provided that the permittee has been operating the facility in compliance with the permit. It should be noted that if an upset occurs, the burden of proof will be on the permittee.

B. REPORTING REQUIREMENTS

If for any reason, there is a discharge to a water body of the state or an overflow or discharge from a waste retention structure, the permittee shall make immediate oral notification within 24 hours to the division and notify the division in writing within five working days of the discharge from the facility. Such a discharge will also trigger requirements to obtain an individual NPDES permit. In addition, the permittee shall keep a copy of the notification submitted to the division together with the NMP. The notification shall include the following information:

a. Description of the discharge: A description and cause of the discharge, including a description of the flow path to the receiving water body. Also, an estimation of the flow and volume discharged.
b. Time of the discharge: The period of discharge, including exact dates and times, and the anticipated time the discharge is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the discharge.
c. Cause of the discharge: If caused by a precipitation event(s), information from the onsite rain gauge concerning the size of the precipitation event must be provided.

C. SAMPLING REQUIREMENTS

The permittee must collect a sample of the waste/wastewater discharged and shall analyze the sample for the following parameters, at a minimum: flow, biochemical oxygen demand (BOD_5), total suspended solids (TSS), total nitrogen, total ammonia nitrogen, total kjeldahl nitrogen, total nitrate nitrogen (as N), total phosphorus, dissolved phosphorus, and *Escherichia coli*. Sampling results must be submitted to the Columbia EFO along with the following:

a. Volume of the discharge: An estimate of the volume of the release and the date and time.
b. Sampling procedures: Samples shall consist of grab samples collected from the over-flow or discharges from the retention structure. A minimum of one sample shall be collected from the initial discharge (within 30 minutes).
c. Reasons for not sampling: If conditions are not safe for sampling, the permittee must provide documentation of why samples could not be collected. However, once the unsafe conditions have passed, the permittee shall collect a sample for the retention structure (pond or lagoon) within 30 minutes.

V. OTHER REQUIREMENTS

The following additional requirements will be included in the permit:

A. NUTRIENT MANAGEMENT PLAN

The permittee has developed and submitted for state approval (from TDA) a site-specific nutrient management plan (NMP). The NMP was prepared in accordance with NRCS Field Office Conservation Practice Standards and/or the NRCS Animal Waste Handbook. The NMP must be kept on site. The NMP is available for public review at the Nashville Central Office, the Columbia Environmental Field Office or at the Tennessee Department of Agriculture, Ellington Agricultural Center in Nashville, Tennessee.

B. LAND APPLICATION REQUIREMENTS

All dairy, cattle, swine, poultry and veal CAFOs that land apply manure, litter, or process wastewater must apply setbacks from existing streams, lakes and sinkholes that are adequate to protect water quality, public health, well heads and groundwater, consistent with the guidelines found in 1200-04-05.14(11) (a)-(e) and in the NRCS Field Office Technical Guide.

The natural riparian buffer requirements are based on data presented in NCASI Technical Bulletin No. 799, "Riparian Vegetation Effectiveness," which indicated that a strip of approximately 60' of diverse vegetation (shrub, grass and trees) provides optimal pollutant removal.

C. TRANSFER TO THIRD PARTY

Prior to transferring any of manure, litter or process wastewater to a third party, the permittee must provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis (consistent with 40 CFR § 412 and 1200-04-05.14(11)(b)), and ensure that the third party signs the Agreement for the Removal of Litter, Manure and/or Process Wastewater

from an AFO form (Appendix B) to be used for land application activities that are not under the operational control of the permitted CAFO.

D. RECORD KEEPING

Permittee must create, maintain on site for five years, and make available to the director, upon request all records in accordance with 1200-04-05-.14(10)(b).

VI. PERMIT DURATION

According to the requirements of TDEC Rule 1200-04-05-.11 each issued permit shall have a fixed term not to exceed five years.